ABSTRACT

The present invention is an adjustment method for a projection optical system which allows measuring the relationship (dependency) of the fluctuation amount of the image formation characteristics of the projection optical system with respect to the change of the installation environment (e.g. barometric pressure) around the projection optical system substantially, without actually changing the installation environment. The illumination light (IL) from the exposure light source (1) illuminates the reticle (9) via the fly eye lenses (2, 4) and the capacitor lens (8) etc., and the pattern image on the reticle (9) is projected onto the wafer (12) via the projection optical system (11) under the illumination light (IL). Based on the fact that changing the wavelength of the illumination light (IL) and changing the barometric pressure (approximately equal to the atmospheric pressure) are substantially equivalent for the projection optical system (11), the fluctuation amount of the image formation characteristics is measured while changing the wavelength of the illumination light (IL) so as to measure the dependency of the image formation characteristics on the atmospheric pressure.